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On the Orbit of O Σ 285. By J. E. Gore.

Recent measures made by Mr. Burnham with the 36-inch refractor of the Lick Observatory, show that the angular change in this pair, since its discovery, amounted last year to 270°. I have computed the orbit and find the following provisional elements:—

Elements of OΣ 285.

$P = 118{\cdot}57$ years $\qquad ☊ = 106° 58'$

$T = 1881{\cdot}93 \qquad \lambda = 161° 24'$

$e = 0{\cdot}58 \qquad a = 0''{\cdot}46$

$i = 45° 42' \qquad \mu = -3°{\cdot}036$

The following is a comparison between the measures used in computing the orbit and the positions computed from the above elements. A correction of 180° has been applied to the measures marked with an asterisk, the components being nearly equal in brightness:—

Epoch.	Observer.	θ	θ_c	$\theta_o - \theta_c$	ρ_o	ρ_c	$\rho_o - \rho_c$
		°	°	°	″	″	″
1845·80	O. Struve	72·2	73·5	−1·3	0·61	0·56	+0·05
1847·96	Mädler	72·2	70·9	+1·3	0·42	0·53	−0·11
1852·69	„	60·6	64·2	−3·6	0·45	0·48	−0·03
1852·74	O. Struve	57·8	64·1	−6·3	0·50	0·48	+0·02
1855·84	„	53·9	58·8	−4·9	0·51	0·44	+0·07
1857·50	Secchi	65·5	55·6	+9·9	0·4	0·41	−0·01
1865·50	Dembowski	36·5	32·3	+4·2	oblong?	0·30	...
1881·50	Burnham		Round or doubtful			0·19	...
1883·84	Engelmann	*258·3	252·4	+5·9	0·22	0·17	+0·05
1885·40	Perrotin	*225·0	232·3	−7·3	oblong?	0·16	...
1887·56	Schiaparelli	202·2	204·3	−2·1	0·24	0·17	+0·07
1891·30	Burnham	168·7	169·0	−0·3	0·24	0·23	+0·01
1892·30	„	162·2	162·2	0·0	0·21	0·25	−0·04

Assuming that the mass of the system is equal to the mass of the Sun, the "hypothetical parallax" would be

$$p = \frac{a}{P^{\frac{2}{3}}} = 0''{\cdot}019.$$

The magnitudes of the components are about 7·0, 7·2; and the approximate position of the pair for 1880·0 is

R.A. $14^h\ 41^m$
Decl. + 42° 53′.

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Observations of the recent Conjunction of Saturn and γ Virginis made at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

The following observations of differences of R.A and N.P.D. were made with the 12¾-inch Merz Refractor mounted on the Lassell Equatorial, the power used being 285. The differences of R.A. were recorded on one of the portable chronographs, and the differences of N.P.D. were measured with a filar micrometer:—

TABLE I.

G.M.T. of Observation.				γ^1 Virg.-Sat. Corrected for Refraction and Parallax.	γ^2 Virg.-Sat. Corrected for Refraction and Parallax.	Diameter of Saturn.	Deduced R.A. of Sat. Reduced to Time of Meridian Passage.	Observer.
d	h	m	s	m s	m s	s	h m s	
Apr. 10	9	46	46	0 38·78	...	1·26	12 35 35·82	L.
		49	29	38·84	...	·24	·80	L.
		54	54	38·88	...	·21	·82	L.
		56	1	...	0 39·03	·25	·87	L.
		57	17	...	39·16	·23	·76	L.
		58	38	...	39·08	·27	·86	L.
	10	0	36	39·06	...	·23	·70	L.
		1	55	38·95	...	·24	·83	L.
		3	12	39·00	...	·25	·79	L.
		6	45	39·01	...	·38	·82	H. T.
		8	22	...	39·29	·29	·75	H. T.
		9	43	...	39·21	·25	·84	H. T.
		10	56	39·08	...	·26	·80	H. T.
		12	29	...	39·28	·33	·80	H. T.
		15	14	39·10	...	·31	·82	H. T.
		32	32	39·16	...	·33	·96	L.
		34	17	...	39·57	·25	·77	L.
		35	27	39·27	...	·23	·89	L.
		36	32	...	39·53	·23	·83	L.
		37	43	39·37	...	·33	·81	L.
		48	23	39·44	...	·21	·87	L.
		49	30	...	39·72	·29	·79	L.
		50	46	39·49	...	·26	·84	L.
		51	53	...	39 62	·26	·92	L.

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